

Title (en)  
HETEROCYCLIC COMPOUNDS AND THEIR USE IN ELECTRO-OPTICAL OR OPTO-ELECTRONIC DEVICES

Title (de)  
HETEROCYCLISCHE VERBINDUNGEN UND DEREN VERWENDUNG IN ELEKTROOPTISCHEN ODER OPTOELEKTRONISCHEN VORRICHTUNGEN

Title (fr)  
COMPOSÉS HÉTÉROCYCLIQUES ET LEUR UTILISATION DANS DES DISPOSITIFS ÉLECTRO-OPTIQUES OU OPTO-ÉLECTRONIQUES

Publication  
**EP 2984079 A2 20160217 (EN)**

Application  
**EP 14718454 A 20140327**

Priority  
• GB 201306365 A 20130409  
• GB 2014050970 W 20140327

Abstract (en)  
[origin: GB2513013A] A compound of formula [Ar1]m[Ar2]n wherein: m is from 1-3 and n is from 1-2; Ar1 is optionally substituted- dibenzo[b,e] [1,4]dioxine, phenoxanthine, thianthrene, dibenzo[b,e]1,4-thiaselenane or selenanthrene having a linkage to Ar2 at one or two positions selected from ring positions 1-4 and 5-8; Ar2 represents a residue derived from an arylamine in which the aryl rings are optionally substituted- phenyl, naphthyl or anthracenyl, a polycyclic fused/chain aromatic ring system optionally containing nitrogen or sulphur and in a chain aromatic ring system optionally containing one or more chain oxygen or sulphur atoms, a triarylphosphine oxide or an arylsilane, the rings of any of which are optionally substituted. These compounds exhibit high hole mobility and/or high glass transition temperatures. The compounds may be used in electron transport layers, may be doped with p-type dopants, incorporated into OLEDs, organic photovoltaic devices, imaging members or thin-film transistors. Preferred compounds include 1-anthracenyl-9-yl-thianthrene, 1-biphenyl-4-yl-thianthrene and 9,10-Bis(1- thianthrenyl)anthracene.

IPC 8 full level  
**C07D 339/08** (2006.01); **C07D 279/24** (2006.01); **C07D 279/26** (2006.01); **C07D 409/10** (2006.01); **C07D 409/12** (2006.01); **C07D 409/14** (2006.01); **C07D 417/10** (2006.01); **C07F 7/08** (2006.01); **C07F 9/53** (2006.01); **H01L 51/00** (2006.01)

CPC (source: EP GB US)  
**C07D 279/24** (2013.01 - EP GB US); **C07D 279/26** (2013.01 - EP GB US); **C07D 279/36** (2013.01 - GB); **C07D 339/08** (2013.01 - EP GB US); **C07D 407/14** (2013.01 - GB); **C07D 409/10** (2013.01 - EP GB US); **C07D 409/12** (2013.01 - EP GB US); **C07D 409/14** (2013.01 - EP GB US); **C07D 417/10** (2013.01 - EP GB US); **C07D 417/14** (2013.01 - GB); **C07F 7/0812** (2013.01 - EP GB US); **C07F 9/4028** (2013.01 - EP GB US); **C07F 9/5355** (2013.01 - EP GB US); **C07F 9/655372** (2013.01 - EP GB US); **C07F 15/002** (2013.01 - EP GB US); **C07F 15/0033** (2013.01 - EP GB US); **C07F 15/0086** (2013.01 - EP GB US); **C09K 11/06** (2013.01 - GB); **H01M 14/005** (2013.01 - GB); **H05B 33/14** (2013.01 - GB); **H10K 50/11** (2023.02 - GB US); **H10K 50/15** (2023.02 - GB); **H10K 85/615** (2023.02 - EP GB US); **H10K 85/631** (2023.02 - EP GB US); **H10K 85/633** (2023.02 - GB); **H10K 85/636** (2023.02 - US); **H10K 85/649** (2023.02 - GB); **H10K 85/656** (2023.02 - GB); **H10K 85/657** (2023.02 - EP GB US); **H10K 85/6572** (2023.02 - EP GB US); **H10K 85/6576** (2023.02 - EP GB US); **H10K 50/15** (2023.02 - EP US); **H10K 50/16** (2023.02 - US); **H10K 50/17** (2023.02 - EP GB US); **H10K 50/171** (2023.02 - EP GB); **H10K 2102/00** (2023.02 - US); **Y02E 10/549** (2013.01 - EP US)

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)  
BA ME

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**GB 201405474 D0 20140507**; **GB 2513013 A 20141015**; **GB 2513013 B 20151230**; BR 112015025737 A2 20180508; CN 105189475 A 20151223; CN 105189475 B 20181221; EP 2984079 A2 20160217; EP 2984079 B1 20200701; GB 201306365 D0 20130522; JP 2016523815 A 20160812; JP 6405363 B2 20181017; KR 20150139929 A 20151214; RU 2015147684 A 20170516; US 10439147 B2 20191008; US 2016035983 A1 20160204; US 2018323378 A9 20181108; US 2019372011 A1 20191205; WO 2014167286 A2 20141016; WO 2014167286 A3 20150219

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